

Applicant: Ilkka Naatti et al.
PCT App. No.: PCT/FI2004/050086

Claim Listing

1–14. (cancelled)

15. (new) A method in reeling up, where a paper web is continuously reeled into reels around rotating reeling cores by using a loop of a supporting member in such a manner that

- before reel change a new, empty reeling core having a periphery is brought to a change station into a change connection with the paper web going to an old reel,
- when the old reel is full, the paper web is changed in a change event to travel to the periphery of the new reeling core and primary reeling is started, where the paper web is guided in an incoming direction and through a reeling nip between the loop of the supporting member and the new reeling core around the new reeling core to an outer periphery of a reel around the new reeling core
- during the primary reeling, a first guide roll of a web-carrying portion of the loop of the supporting member is transferred in the direction of the periphery of the new reeling core so that the distance of the reeling nip located between the new reeling core and the loop of the supporting member from the first guide roll changes,
- from the primary reeling a change is made to secondary reeling, where the web-carrying portion carrying the paper web in a travel direction brings the paper web to the reel, and the paper web moves over to the reel in a reeling nip between said portion and outer periphery of the reel having a diameter showing an increase, and
- during the secondary reeling at least in some stage the new reeling core is transferred in relation to the loop of the supporting member according to the increase of the diameter of the reel in such a manner that the position of said reeling nip moves forward on the web-carrying portion of the supporting member in the travel direction of said portion.

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16. (new) The method according to claim 15, wherein said first guide roll is transferred during primary reeling in the direction of the periphery of the reeling core against the incoming direction of the paper web so that the distance of the reeling nip from said first guide roll increases.

17. (new) The method according to claim 16, wherein, during the primary reeling,
- in a first primary reeling stage, the reel forming around the new reeling core is against the supporting member at a location where the supporting member is over the first guide roll, and
- in a second primary reeling stage, the first guide roll is transferred so that the reel comes more against a free portion of the supporting member, which immediately follows the first guide roll.

18. (new) The method according to claim 15, wherein the new reeling core is in stationary position during primary reeling.

19. (new) The method according to claim 17, wherein the new reeling core is in stationary position during primary reeling.

20. (new) The method according to claim 15, wherein the new reeling core is brought to the change station against the loop of the supporting member with a substantially vertical linear movement.

21. (new) The method according to claim 17, wherein the new reeling core is brought to the change station against the loop of the supporting member with a substantially vertical linear movement.

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22. (new) The method according to claim 15, wherein the first guide roll and a second guide roll following it in the travel direction of the web-carrying portion of the supporting member are transferred in such a manner that the position of the loop of the supporting member changes.

23. (new) The method according to claim 17, wherein the first guide roll and a second guide roll following it in the travel direction of the web-carrying portion of the supporting member are transferred in such a manner that the position of the loop of the supporting member changes.

24. (new) The method according to claim 22, wherein movements of the first guide roll and the second guide roll are determined according to a body connecting the rolls when they are transferred.

25. (new) The method according to claim 15, wherein the first guide roll and the second guide roll are transferred independently.

26. (new) The method according to claim 15, wherein the first guide roll is transferred within the loop of the supporting member.

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27. (new) A reel-up, which is arranged to continuously reel a paper web into reels around rotating reeling cores, comprising

- a transfer device arranged movable in machine direction for transferring a reeling core and a reel forming around it during secondary reeling, where the paper web is guided continuously to the reel via a reeling nip of secondary reeling,
- a device for transferring a new empty reeling core having a periphery to a change station, where the paper web guided to the reel in the secondary reeling is changed to travel to the periphery of and around the new reeling core,
- a device for keeping the new reeling core in a primary reeling station where the paper web is guided around the new reeling core through a reeling nip,
- a loop formed by a supporting member, where there is a web-carrying portion traveling in a travel direction, said portion forming the reeling nip of secondary reeling, and the transfer device being arranged to transfer the reel in the secondary reeling so that said reeling nip of secondary reeling moves in the travel direction of the web-carrying portion,
- inside the loop, a first guide roll defined by an axis, said roll being located in the travel direction of the supporting member in the beginning of the web-carrying portion forming the reeling nip of secondary reeling,
- said first guide roll being arranged movable in the direction of the periphery of the reeling core in the primary reeling station so that the distance of the reeling nip located between the reeling core and the loop of the supporting member from the first guide roll changes.

28. (new) The reel-up according to claim 27, wherein the axis of the first guide roll is movable linearly at least in the machine direction.

29. (new) The reel-up according to claim 28, wherein the axis of the first guide roll is movable linearly both in the machine direction and in the height direction with transfer movements independent of each other.

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30. (new) The reel-up according to claim 27, wherein the change station and the primary reeling station are the same and implemented by a primary reeling device, which is arranged to keep the new reeling core in the change station and in the primary reeling station.

31. (new) The reel-up according to claim 28, wherein the change station and the primary reeling station are the same and implemented by a primary reeling device, which is arranged to keep the new reeling core in the change station and in the primary reeling station.

32. (new) The reel-up according to claim 30, wherein the primary reeling device is arranged movable substantially in the vertical direction on a frame of the reel-up by means of linear guides.

33. (new) The reel-up according to claim 31, wherein the primary reeling device is arranged movable substantially in the vertical direction on a frame of the reel-up by means of linear guides.